

ADMINISTRATION AND CONTROL OF NETWORKS



THE INSTITUTE FOR PROFESSIONAL EDUCATION

*The right to amend the syllabus or cancel the seminar is reserved.
Satisfactory completion of this course will earn 1.8 Continuing Education Units.*

THE INSTRUCTIONAL STAFF: This seminar will be led by one of the following individuals or a senior member of the IPE instructional staff.

ROBERT M. WAINWRIGHT is President of R.M. Wainwright and Associates, Inc. Mr. Wainwright is an expert in the planning, design, implementation and support of data communications systems. His background includes various management and technical positions with Microdata Corp., Control Data, and Western Union Telegraph Company. He has written, lectured and consulted extensively for many organizations in the United States and abroad and his problem solving expertise has been utilized by many leading commercial, government, and military communications organizations.

BILLY K. GEURIN is a Senior Member of R.M. Wainwright and Associates, Inc. Mr. Geurin was formerly with the Western Union Telegraph Co. where he served as System Maintenance Supervisor of the General Services Administration Advanced Record System (ARS), and participated in advanced systems planning to modernize the United States TELEX and TWX systems. Mr. Geurin is an expert in circuit switching, store-and-forward, front end, data concentrator, and a wide variety of multiplexing and hubbing transmission systems.

KENNETH SHERMAN is an independent consultant with several years of data communications experience where he held various technical and senior level management positions. Mr. Sherman is experienced in communications control, message switching, and front end systems and was the program manager for the design and implementation of communications systems. Mr. Sherman has performed many major consulting assignments, including the integration of several large scale data processing equipments with on line/real time terminal oriented communications systems.

LOCATION AND HOTEL ACCOMMODATIONS

Seminars are presented at the hotels listed below. The cost of hotel rooms is not included in the tuition. Because of the personalized nature of hotel accommodations, IPE does not arrange hotel reservations; however, the hotels hold a block of rooms for participants until two weeks before the seminar. Hotel reservation cards will be forwarded with registration confirmations. We suggest you call or write the hotel directly mentioning IPE; the seminar; and dates attending.

May 25-27, 1977

TowneHouse Hotel
Market at Eighth Street
San Francisco, California 94103
Room Reservations: (415) 863-7100

June 15-17, 1977

Ramada Inn — Rosslyn
1900 North Fort Myer Drive
Arlington, Virginia 22209
Room Reservations: (703) 527-4814

July 6-8, 1977

Royal Inn at The Wharf
1355 Harbor Drive
San Diego, California 92101
Room Reservations: (714) 232-3861

August 8-10, 1977

Loews Summit Hotel
East 51st Street at Lexington Avenue
New York, New York 10022
Room Reservations: (212) 752-7000

ADMINISTRATION AND CONTROL OF NETWORKS

CONCEPT: This seminar provides basic systems approaches to total network operational control of the new transaction-driven distributed processing systems. Conventional systems requirements of network operational control are rapidly and drastically changing with new system designs. The latest network architecture concepts are reviewed to the level where the attendee will be able to determine the system requirements for network control.

OBJECTIVES: Learn to identify, investigate, understand and implement network operational controls in new systems on a total network basis. Learn to establish and maintain complex interfaces between network components and personnel so as to maintain comprehensive network control while distributing processing activities and data bases.

PERSONAL BENEFITS: Attendees will acquire the necessary techniques to modify, implement and maintain network controls in transaction driven, distributed systems at each processing node and throughout the network.

COURSE OUTLINE

INTRODUCTION

Overview of Basic Systems Characteristics and Operational Control Methods
Terminology and Definitions
Types of Networks (configurations)

POTENTIAL ROLE OF NETWORK ADMINISTRATION

FUNCTIONS AND RESPONSIBILITIES OF THE NETWORK ADMINISTRATOR

Network Control, Analysis, and Problem Isolation
Documentation—Procedures Troubleshooting
Network Logs/Monitoring/Statistics(facts)
Network Standards (codes/formats/line protocols)
Network Security/Integrity/Alternate Routing/and Recovery Procedures
Network Circuit/Remote Device Layout Sheets
Network Scan/Port/Line/Queue/Priority/Format/Forms/Line/Protocol/and Security Assignments
Loading, Response Time and Efficiency Analysis
Network Projection and Reconfiguration Control

DETAILED ANALYSIS OF OPERATIONAL CONTROLS UTILIZED WITHIN CURRENT SYSTEMS

Types of Network Abnormalities and Errors
Methods of Current Network Configurations, Downline Load Techniques, Network Control and Monitoring Techniques, and Network Diagnostics
Types of Current Network Management Reports

THE CONCEPTS OF SYSTEM NETWORK ARCHITECTURE (SNA) AND HOW IT AFFECTS YOUR SYSTEM

DEFINITION, STRUCTURE AND TYPES OF NETWORK TECHNICAL CONTROLS

Manual Test Points, Modem Loopback Options, with Limited Test Equipment Capabilities
Manual Jack Panels, Local/Remote Switching Equipment Utilizing Test Equipment
Computerized Monitor/Analysis Technical Control Sub-System
Transaction Processor Utilizing Micro-Processor Line Equipment on Both the Transaction Processor and Terminal/Minicomputer Distributed Network Nodes
Configurations and Tradeoff Analysis

WHAT FEATURES SHOULD BE DESIGNED INTO A NETWORK ADMINISTRATION CONTROL SUB-SYSTEM?

Why?
What Will The Impact Be?
How Should These Features Be Used?

COMPARISON AND EVALUATION OF CURRENT VENDORS NETWORK CONTROL PRODUCT LINES

Modem—Options—Test Tools
Access Monitor/Switching Equipment
Computerized Monitor Technical Controls
Test Equipment
Transaction Processors

NETWORK SECURITY/PRIVACY TECHNIQUES

Operator Password/Keylocks
Terminal ID/Locks
Data Encryption
Transaction Processor Passwords
Applications Processor Passwords
Data Base Passwords
Installation Security

RECOVERY PROCEDURES FOR THE NETWORK

Terminal/Job Block ID Numbering
Format Control and Analysis
Micro-Processor/Diskette and Host Balance
Disk Queuing
Multi-Node Main Memory Queuing (packet)
Audit Trails/Searches
Automatic Down-Line Load, Reinitiation and Restart

NETWORK CONTROL DATA BASES REQUIREMENTS AND CAPABILITIES

What Are They?
Why Have Them?
How to Design/Build/and Maintain
Types of Entries

WHAT TYPES OF FORMS, REPORTS, LOGS, TROUBLESHOOTING, AND CONFIGURATION PROCEDURES ARE REQUIRED

HOW TO ANALYZE AND DETERMINE WHAT TYPE AND LEVEL OF NETWORK CONTROL YOUR SYSTEM REQUIRES

ORGANIZATIONAL CONSIDERATIONS OF NETWORK ADMINISTRATION

CASE STUDIES